

L 13875-66

ACC NR: AP6005319

SOURCE CODE: UR/0413/66/000/001/0053/0053

INVENTOR: Laptov, N. N.; Smol'nikov, L. Ye.

ORG: none

TITLE: Bridge inverter. Class 21, No. 177516

SOURCE: Izobreteniya, promyshlennyye obraztzy, tovarnyye znaki, no. 1, 1966, 53

TOPIC TAGS: electronic component, inverter, electric energy conversion, power supply

ABSTRACT: The proposed self-excitation bridge inverter utilizes a number of parallel-connected transistors in each arm of the bridge. To prevent short circuiting of individual transistors, use is made of an auxiliary converter connected to a common power supply source. Negative feedback windings are connected through a rectifier to the

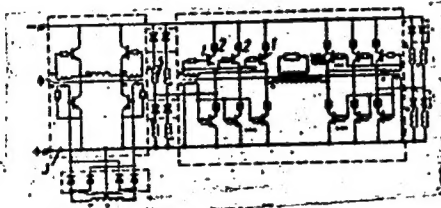


Fig. 1. Bridge inverter

1 - Basic inverter transistors; 2 - fuses;
3 - auxiliary converter; 4 - feedback
windings; 5 - output windings.

Card 1/2

UDC: 621.314.572:621.316.9

L 13875-66

ACC NR: AP6005319

inputs of the transistors of the auxiliary converter. The output windings are connected in parallel through full-wave rectifiers to the transistors of each arm (see Fig. 1). Orig. art. has: 1 figure. [DW]

SUB CODE: 09/ SUBM DATE: 27May64/ ATD PRESS: 4/92

TS
Card 2/2

ACC NR: AP7002961 (A) SOURCE CODE: UR/0413/66/000/024/0040/0040

INVENTOR: Smol'nikov, L. Ye.

ORG: None

TITLE: A static power converter. Class 21, No. 189481

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 24, 1966, 40

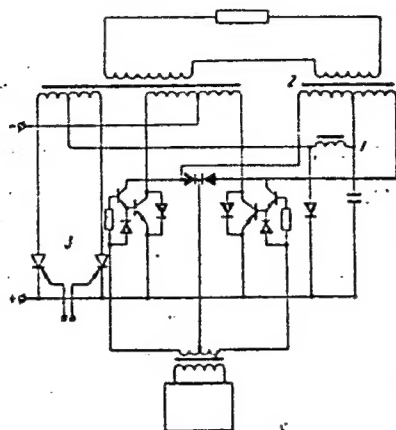
TOPIC TAGS: electric energy conversion, electronic feedback, voltage regulator

ABSTRACT: This Author's Certificate introduces a static power converter using semiconductor elements. The installation contains a current feedback unit with a transformer and a pulse voltage regulator. The circuit is simplified and reliability is improved by implementing current feedback simultaneously with voltage stabilization. The current feedback unit is equipped with a DC filter in which the capacitor is charged from the pulse voltage regulator. This capacitor is connected in the transformer power supply circuit.

Card 1/2

UDC: 621.314.58;621.315.592.004

ACC NR: AP7002961



1--voltage booster; 2--transformer in the current feedback unit; 3--pulse voltage regulator

SUB CODE: 09/ SUBM DATE: 25Oct63

Card 2/2

~~L 18262-63~~

ACCESSION NR: AP3006645

S/0286/63/000/008/0018/0018

AUTHOR: Laptev, N. N.; Smol'nikov, L. Ye.

TITLE: LC relaxation oscillator. Class 21, No. 153935

SOURCE: Byul. izobreteniy i tovarny*kh znakov, no. 8, 1963, 18

TOPIC TAGS: oscillator, relaxation oscillator, LC oscillator, LC relaxation oscillator, driven oscillator, controlled rectifier, SCR

ABSTRACT: This Author's Certificate introduces an LC relaxation oscillator operating in the driven mode which is modified to give a delayed pulse output. This is accomplished by connecting controlled rectifiers 2 and 4 and injection diode 3, as shown in Fig. 1 of the Enclosure. Orig. art. has: 1 figure.

ASSOCIATION: none

SUBMITTED: 03Nov61

DATE ACQ: 30Sep63

ENCL: 01

SUB CODE: GE

NO REF SOV: 000

OTHER: 000

Card 1/2

ACC NR: AP7000323

SOURCE CODE: UR/0413/66/000/022/0061/0061

INVENTOR: Laptev, N. N.; Smol'nikov, L. Ye.

ORG: none

TITLE: Self-exciting inverter. Class 21, No. 188568.

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 22, 1966, 61

TOPIC TAGS: inverter, electronic circuit, transistorized circuit

ABSTRACT: An Author Certificate has been issued for a self-exciting inverter (see Fig. 1) based on thyristors either with feedback or with a tuned LC load circuit. To

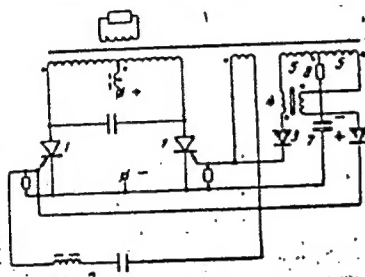


Fig. 1. Inverter

1 - Inverter thyristors; 2 - tuned LC circuit; 3 - isolation diodes; 4 - saturation coil; 5 - feedback winding; 6 - output transformer; 7 - tank capacitor; 8 - limiting resistor.

UDC: 621.314.
572

Card 1/2

SMOL'NIKOV, Nikolay Ivanovich; SIVKOVA, Valeriya Aleksandrovna; SMOLYARENKO, D.A., redaktor; DENISOVA, I.S., redaktor; KIRSANOVA, N.A., tekhnicheskii redaktor.

[Improvement of sanitary conditions for workers pouring metal in open-hearth mills] Osderevlenie uslovii truda pri razlivke metalla v martenevskikh tekhakh, Moskva, Izd-vo VTsSPS Profizdat, 1955.
115 p. (Foundries--Sanitation) (MIRA 9:5)

SMOL'NIKOV, N.I., kandidat tekhnicheskikh nauk.

Test results for some collective and individual safety appliances used during metal pouring in open-hearth plants. Otdor. usl.trud.na zav. no. 44-57 '56. (MLRA 9:11)
(Open-hearth furnaces-- Safety appliances)

PHASE I BOOK EXPLOITATION 766

Malykh, Aleksandr Aleksandrovich, Spirina, Anna Maksimovna, and Smol'nikov, Nikolay Ivanovich

Okhrana truda v martenovskikh tsekhakh (Safety Measures in Open-hearth Furnace Shops) Moscow, Metallurgizdat, 1957. 196 p. 3,100 copies printed.

Ed.: Raylo, P. I.; Ed. of Publishing House: Khutorskaya, Ye. S.; Tech. Ed.: Mikhaylova, V.V.

PURPOSE: This book is intended for engineers and technicians in metallurgical plants who are interested in, or deal with industrial safety problems. The book may also be used by students in higher institutions of learning and in tekhnikums.

COVERAGE: The authors describe various hygienic and sanitary measures adopted by Soviet industry to improve working conditions and to reduce the accident rate in open-hearth furnace shops. The most frequent causes of accidents are analyzed and the proper preventive measures are explained. Special emphasis is laid on hazardous operations around the open hearth furnace.

Card 1/4

14(5)

SOV/152-59-2-13/32

AUTHORS: Musayev, I. M., Shapiro, B. A., Smol'nikov, N. V.

TITLE: Fighting Foreign Waters in the Course of the Exploitation of a Petroleum Deposit (Bor'ba s postoronnimi vodami v protsesse razrabotki neftyanogo mestorozhdeniya). Experiences of the Plant of Kyurovdag NPU "Shirvanneft'" (Iz praktiki promysla Kyurovdag NPU "Shirvanneft'")

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Neft' i gaz, 1959, Nr 2, pp 53 - 57 (USSR)

ABSTRACT: The main level of extraction in the southwestern branch of the Kyurovdag fold is the level I, which is situated in the upper part of the productive matter. In lithological respects it represents a sequence of sands and clay. Under the petrolific part of the cross section layers of water were discovered, which after the decrease of ohm resistance are marked in the core sampling diagrams. During the investigation of level I water broke through that mainly gathered in the bottom of the level and in lower lying layers. The water possibly broke through because of the connection along the drill shaft between petrolific and water-containing layers. The casting of petroleum cement is an

Card 1/2

SOV/152-59-2-13/32

Fighting Foreign Waters in the Course of the Exploitation of a Petroleum Deposit. Experiences of the Plant of Kyurovdag NPU "Shirvanneft'"

effective measure to obtain anhydrous petroleum from watery drillings and to lower the percentage of water in the final product. For the casting of the petroleum cement under the conditions prevailing in Kyurovdag no lowering or elevating work has to be done which permits work without elevators and derricks.

There are 2 figures and 1 table.

ASSOCIATION: Azerbaydzhanskiy industrial'nyy institut im. M.Azizbekova (Azerbaydzhani Industrial Institute imeni M.Azizbekov) and NPU "Shirvanneft'"

Card 2/2

SMOL'NIKOV, N.Ya.; DIKAREVA, A.I., red.; SVESHNIKOV, A.A., tekhn. red.
[Programming fundamentals for the "Ural" digital computer] Osnovy
programmirovaniia dlia tsifrovoi mashiny "Ural." Moskva, Izd-vo
"Sovetskoe radio," 1961. 326 p. (MIRA 15:2)
(Electronic digital computers)
(Programming (Electronic computers))

KATOV, Viktor Ivanovich; NIKOLAYEV, Oleg Aleksandrovich; ZHDANOVICH,
Nikolay Semenovich; FETISOV, Aleksandr Vasil'yevich;
SMOL'NIKOV, N.Ya., red.; BORUNOV, N.I., tekhn. red.

[Digital computer for school use] Uchebnaia tsifrovaia vy-
chislitel'naia mashina. Moskva, Gosenergoizdat, 1963. 127 p.
(Biblioteka po avtomatike, no.84) (MIRA 16:12)
(Electronic digital computers)

RUDAKOV, Mikhail Lazarevich, prof.; GUSEV, Nikolay Andreyevich, dotsent;
FILATOV, Sergey Aleksandrovich, kand.tekhn.nauk; NENAZHIVIN,
Aleksandr Vasil'yevich, inzhener; RASHKOVSKIY, Yakov Zel'manovich,
inzhener; SMOL'NIKOV, Pavel Alekseyevich, inzhener; ZORIN,
Il'ya Petrovich, inzhener; LOGINOVSKIY, Vasil'y Mikhaylovich,
inzhener; BUTKEVICH, T.V., red.; LISHUTIN, B.G., red.; LUCHKO, Yu.V.,
red.izdatel'stva; ZEF, Ye.M., tekhn.red.

[Mine surveying in strip mining] Marksheiderskie raboty na
kar'erakh. Pod obshchei red.B.G.Lishutina i A.V.Nenazhivina.
Sverdlovsk, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi
metallurgii, Sverdlovskoe otd-nie, 1957. 691 p. (MIRA 10:12)
(Mine surveying)

ANISIMOV, I.V.; SMOL'NIKOV, P.V.

Development of the combined invariant system for the control of
rectification. Khim.prom. no.12:895-902 D '63. (MIRA 17:3)

L 32019-65 EWT(d)/EWP(v)/EPF(n)-2/EWP(h)/EWP(k)/EWP(l) Po-l/Pq-l/Pf-l/Pae-2/
Pk-l/P1-l IJP(c) VW/BC

ACCESSION NR: AP5003982

S/0103/65/026/001/0176/0179

59
B

AUTHOR: Smol'nikov, P. V. (Moscow)

TITLE: Determining the absolute invariance condition from the operation data of
a linear control system when the disturbance is statistically specified

SOURCE: ¹⁴Avtomatika i telemekhanika, v. 26, no. 1, 1965, 176-179

TOPIC TAGS: automatic control, automatic control design, automatic control
system, automatic control theory

ABSTRACT: The transfer function of a compensator which meets the absolute-
invariance condition can be determined from the records of measuring
instruments connected to the input and output of the plant in question during its
normal operation; no preliminary determination of transfer functions of the
system is necessary. A two-input, single-output system is considered for which
fundamental relations were written by T. P. Goodman (Trans. ASME, v. 79,

Card 1/2

L 32019-65

ACCESSION NR: AP5003982

0

no. 3, 1957). An integral equation (10) for correlation functions is developed, and the final formula (15) for the transfer function is derived. The controlled variable $z(t)$ must be recorded for a constant disturbance, $x(t) = \text{const}$. Orig. art. has: 3 figures and 15 formulas.

ASSOCIATION: none

SUBMITTED: 28Oct63

ENCL: 00

SUB CODE: IE, DP

NO REF SOV: 006

OTHER: 001

Card 2/2

CHERNOV, V.F.; SMOL'NIKOV, S.G.; POLYAKOV, Ya.Ya.

Caustic soda by the ferrite method. Patent U.S.S.R. 77,925, Dec. 31, 1949.
(GA 47 no.20:10815 '53)

DEMENT'YEV, A. A., Eng., SMIL'NIKOV, V. L., Eng.

Electric Engineering.

New, advanced methods of electrical equipment repair. Rab. energ., 1, No. 2, 1951.

Monthly List of Russian Accessions. Library of Congress, October 1952. UNCLASSIFIED.

SMOL'NIKOV, V.L.

Self-extinguishing of an arc in a transformer. Elek.sta. 25 no.7:
56-57 J1 '54. (MLRA 7:8)
(Electric transformers)

AID P - 3404

Subject : USSR/Electricity
Card 1/1 Pub. 29 - 19/30
Author : Smol'nikov, V. L., Eng.
Title : Mechanical locking of grounding knife-blades of
110 to 220-kv busbar disconnecting switches
Periodical : Energetik, 10, 26-27, 0 1955
Abstract : The author describes the use of portable grounding
equipment, which is often inconvenient because of
its weight. He advises instead the use of
grounding knife-blades of the RLNZ type. He gives
a description of such an installation. One detailed
drawing.
Institution : None
Submitted : No date

SMOL'NIKOV, V.L., inzh.

Changing generators over to standby excitation under load. Energe-
tik 5 no.12:28-33 D '57. (MIRA 10:12)
(Electric power stations)

AUTHOR: Smolnikov, V.L., Engineer

DDV/91-18-3-25/28

TITLE: On Overvoltage Caused by Higher Harmonics (O perenapryazheniyakh ot vysshikh garmonik)

PERIODICAL: Energetik, 1958, Nr 3, pp 37-38 (USSR)

ABSTRACT: A group of three-phase triple-winding transformers of Metropolitan-Vickers make (3 x 10,500 kVA, 115/38.5/10.5 kV, circuitry $Y_0/Y_0/\Delta-12-11$) working at a Mosenergo block station was damaged by overvoltage. The author lists the mistakes which provoked the accident, and concludes: 1) if a transformer group has triple winding and its NN-windings are delta-connected, then it is not good to switch-in voltage, if the delta is disconnected; 2) such transformer groups have to get their NN-lead-outs equipped with coordinating spark gaps which will protect the winding insulation from overvoltage caused by higher harmonics. There are 2 circuit diagrams and 1 diagram.

Card 1 '1

SMOL'NIKOV, V.L., inzh.

Organization of centralized repair of the electric equipment
of power plants. Elek.sta. 29 no.1:50-53 Ja '58. (MIRA 11:2)
(Electric power plants--Equipment and supplies)

GADZHIYEV, S.S., inzh.; SMOL'NIKOV, V.L., red.; BORUNOV, N.I., tekhn.red.

[Preventing breakdowns of electric equipment at electric stations
and substations] Preduprezhdenie avarii s elektrooborudovaniem
na elektrostantsiyakh i dopstantsiyakh. Moskva, Gos.energ.izd-vo,
1959. 92 p. (MIRA 13:2)
(Electric power plants) (Electric substations)

SMOL'NIKOV, V. M., NEVSKII, N. A.

Effect of radon baths in Piatigorsk on the modification in the rate of hemorrhage and capillaroscopic picture in normal subjects and in patients with certain groups of heart diseases. Klin. med., Moskva 28:7, July 50. p. 78-9

1. Of the Experimental Division (Head--N. A. Nevskiy), Pyatigorsk Clinic of the State Balneological Institute and of the Administration of Pyatigorsk Health Resort (Head Physician--B. N. Papkov).

CLM. 19, 5, Nov., 1950

SMOL'NIKOV, V.M. [Smol'nykov, B.M.]

Interpretation of vertical electric probing curves. Dop. AN USSR
no.9:1160-1165 '61. (MIRA 14:11)

1. Institut geologii poleznykh iskopayemykh AN USSR. Predstavleno
akademikom AN USSR V.B. Porfir'yevym [Porfir'yev, V.B.].
(Geophysics)

BORODIN, Yuriy Pavlovich; SMOL'NIKOV, V.P... red.; BERMAN, B.E., red.
izd-va; ZEF, Ye.M., tekhn.red.

[Electric crane operator; textbook for technical training of
workers] Mashinist elektricheskogo kрана; uchebnik dlia pro-
izvodstvenno-tekhnicheskogo obucheniia rabochikh. Sverdlovsk,
Gos. nauchno-tekhn. izd-vo lit-ry po cherno i tsvetnoi metallur-
gii, 1958. 192 p. (MIRA 12:1)

(Cranes, darricks, etc.)

SMOL'NIKOV, V.P.

Anesthesiology abroad. Report No.1. Eksper.khir. 1 no.1:59-64
Ja-F '56 (MIRA 11:10)

1. Iz fakul'tetskoi khirurgicheskoi kliniki II Moskovskogo meditsinsko-
go instituta imeni I.V. Stalina (dir. deystvitel'nyy chlen AMN SSSR
prof. A.N. Bakulev).
(ANESTHESIOLOGY,
progr. (Rus))

SMOL'NIKOV, V.P. (Moskva)

Anesthesiology in foreign countries, Report No.2. Eksper.khir. 1 no.2
58-64 Mr-Ap '56 (MIRA 11:10)
(ANESTHESIOLOGY, review (Rus))

SMOL'NIKOV, V.P. Cand Med Sci (MSc) "Simple ether narcosis."
Mos, 1957 11 pp 20 cm. (Tomsk State Med Inst in V.K. Kolotov's
From Inst ^{of Thoracic} ~~Chest~~ Surgery of USSR Acad Med Sci) 200 copies
(KL, 12-57, 105)

SMOL'NIKOV, V.P.

Macintosh's anesthetic apparatus (EMO). Eksper.khir. 2
no.2:50-54 Mr-Ap '57. (MIRA 12:8)

1. Iz instituta grudnoy khirurgii (dir. -deystvitel'nyy chlen
AMN SSSR prof.A.N.Bakulev) AMN SSSR.
(ANESTHESIOLOGY, appar. & instruments
appar. of Macintosh (Rus))

SERGEYEV, V.M., kand.med.nauk, SMOL'NIKOV, V.P., kand.med.nauk

"Anesthesia for surgery of the heart" [in English] by K.K. Keown.
Reviewed by V.M. Sergeev, V.P. Smol'nikov. Vest.khir. 81 no.7:144-146
Jl '58 (MIRA 11:8)

(HEART—SURGERY)
(ANESTHESIOLOGY)
(KEOWN, K.K.)

MESHALKIN, Yevgeniy Nikolayevich; SMOL'NIKOV, Viktor Prokof'yevich

[Modern inhalation anesthesia] Sovremennyyi ingaliatsionnyi
narkoz. Moskva, Medgiz, 1959. 354 p. (MIRA 13:7)
(ANESTHESIA)

SMOL'NIKOV, V.P. (Moskva, Begovaya ul., 11, kv.181)

Shane-Ashman method of anesthesia in thoracic surgery. Grud.khir.
1 no.1:121-125 Ja-F '59. (MIRA 13:6)

1. Iz laboratorii anesteziologii (zav. V.P. Smol'nikov) Insti-
tuta grudnoy khirurgii AMN SSSR (dir. - prof. A.A. Busalov).
(ANESTHESIA) (CHEST--SURGERY)

SMOL'NIKOV, V.P.

"Handbook of balanced anesthesia in dentistry, obstetrics, and surgery" by S.M. Shana. Reviewed by V.P. Smol'nikov. Grud.khir.
1. no.2:118-120. Mr-Ap.'59. (MIRA 16:7)

1. Adres avtora: Moskva, Leninskiy prospekt, d.8, Institut grudnoy khirurgii.

(ANESTHESIA)

SMOL'NIKOV, V.P. (Moskva, Begovaya ul., d.11, kv.181)

Problem of bronchospasm. Grud. khir. 1 no.4:72-76 Jl-Ag '59.
(MIRA 15:3)

1. Iz Instituta grudnoy khirurgii AMN SSSR (dir. - prof.
A.A. Busalov, nauchnyy rukovoditel' - akademik A.N. Bakulev).
(BRONCHI--DISEASES)

KAZANSKIY, B.A.; LUKINA, N.Yu.; NAKHAPETYAN, L.A.; ZOTOVA, S.V.;
LOZA, G.V.; SHATENSHTEYN, G.A.; OVODOVA, V.A.; UVAROV, O.V.;
SOKOLOV, N.M.; SMOL'NIKOV, V.P.

Production of high purity cyclopropane. Khim. prom. no. 6:462-
465 S '60. (MIRA 13:11)

(Cyclopropane)

KOVANEV, V.A.; MISTAKOPULO, N.F.; RYABOV, G.A.; SMOL'NIKOV, V.P.

Some properties of muscle relaxants. Vest. khir. 84 no.5:77-81
My '60. (MIRA 13:12)

(MUSCLE RELAXANTS)

SMOL'NIKOV, V.P.; RYABOV, G.A.

Recurarization following use of relaxants of the non-depolarizing
type. Eksp.khir.i anest. 6 no.3:33-36 '61. (MIRA 14:10)
(MUSCLE RELAXANTS)

LUKINA, M.Yu., kand.khim.nauk; SMOL'NIKOV, V.P., kand.med.nauk (Moskva)

Cyclopropane. Priroda 50 no.11:100-102 N '61. (MIRA 14:10)
(Cyclopropane) (Anesthetics)

SMOLNIKOVA, V. P.

(9)

1st European Congress of Anaesthesiology, 3-7 Sep 62, Vienna

ABSTRACTS

RYABOV, G. A. Principles of Management of the Body Functions in Superficial and
Profound Hypothermia in Children with Congenital Heart Disease

LEVIN, V. A. (Interaction of Muscular Relaxants and Corticosteroids in the Modern
Anaesthesia for the Operations on the Heart
TEREKHOVSKIY, Y. M.

ZOLNIKOVA, S. M. Some Problems of Anaesthesia for Children with Congenital Heart Disease
ROSLAVLEVA, N. G. Operated Upon with the Help of Extracorporeal Circulation

GEVORKYAN, I. S. Arterial Anaesthesia as a Sort of Local Anaesthesia

SMOLNIKOVA, V. P. The Shane Effect and Pauling's Theory of Anaesthesia

SMOL'NIKOV, V. P.; STEPANYAN, Ye. P.; KUPRIYANOV, S. S.; KRAMARENKO, L. Ye.

Inversion of the symptomatology in curarization. Eksper. khir. i
anest. no.2:62-66 '62. (MIRA 15:6)

1. Iz laboratorii anesteziologii (zav. - kandidat meditsinskikh
nauk V. P. Smol'nikov) i laboratorii biokhimii (zav. - doktor
biologicheskikh nauk Ye. P. Stepanyan) Instituta grudnoy khirurgii
(dir. - prof. S. A. Kolesnikov, nauchnyy rukovoditel' - akad.
A. N. Bakulev) AMN SSSR.

(MUSCLE RELAXANTS)

SMOL'NIKOV, V.P.; YEFUNI, S.N., red.; KOKIN, N.M., tekhn. red.

[Problems of emergency anesthesiology] Voprosy ekstremnoi
anesteziologii. Moskva, Medgiz, 1962. 63 p. (MIRA 16:2)
(ANESTHESIOLOGY)

BUACHIDZE, L.N.; SMOL'NIKOV, V.P.

Xenon anesthesia in man. Vest.AMN SSSR 17 no.8:22-25 '62.
(MIRA 15:12)

1. Laboratoriya anesteziologii Instituta eksperimental'noy i
klinicheskoy onkologii AMN SSSR.
(XENON) (ANESTHETICS)

VOLKOVA, Z.V.; SMOL'NIKOV, V.P.

~~Mechanism~~ of the prolonged anesthetic sleep produced with the Shein-Ashman mixture. Vest.AMN SSSR 17 no.8:56-60 '62.

(MIRA 15:12)

1. Laboratoriya anesteziologii Instituta serdechno-sosudistoy khirurgii AMN SSSR i laboratoriya radioaktivnoy indikatsii II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova.

(ANESTHETICS) (THIOPENTAL)

SMOL'NIKOV, V.P.

"Surgical position and anesthesia" by A.P.Zil'ber. Reviewed by
V.P.Smol'nikov. Vest.AMN SSSR 17 no.8:89-91 '62. (MIRA 15:12)
(ANESTHESIOLOGY) (SURGERY, OPERATIVE)
(ZIL'BER, A.P.)

SMOL'NIKOV, V.P.; DARBINYAN, T.M. (Moskva)

What every surgeon and anesthetist should know and remember.
Eksp. khir. i anest. 8 no.3:3-6 My-Je'63 (MIRA 17:1)

SMOL'NIKOV, W.P.; NARODNITSKAYA, N.A.

Modern chloroform anesthesia for oncologic patients. Eksper.
khir. i anest. no.1:74-77 '65. (MIRA 18:11)

1. Laboratoriya anesteziologii (zav. - doktor med. nauk V.P.
Smol'nikov) Instituta eksperimental'noy i klinicheskoy onkologii
(direktor - deystvitel'nyy chlen AMN SSSR prof. N.N. Blokhin)
AMN SSSR, Moskva.

KOBLIKOV, Aleksandr Semenovich; MAZALOV, Anatoliy Gavrilovich; ~~SMOL'NIKOV,~~
Viktor Yevgen'yevich; BORISOGLEBSKIY, B.V., general-leutenant yusti-
tsii, red.; LEVINA, M.M., red.; TIMOFEYEVA, N.V., tekhn. red.

[Scientific and practical commentary on the regulation concerning
military tribunals] Nauchno-prakticheskiikommentarii i polozeniiu
o voennykh tribunalakh. Pod red. i s predisl. V.V.Borisoglebskogo.
Izd.2., ispr. Moskva, Gos.izd-vo iurid.lit-ry, 1961. 78 p.

(MIRA 14:12)

1. Predsedatel' Vvyyennoy kollegii Verkhovnogo Suda SSSR (for Boriso-
glebskiy).

(Courts-martial and courts of inquiry)

E.A. SMOL'NIKOV , V.A. ARSEINOV, ALEKSEEV, G.A.

Raschet i konstruirovaniye rezhushchego instrumenta. Dop.v kachestve
uchebn. posobiia dlia mashinostroit. tekhnikrmov. Moskva, Mashgiz,
1951. 602 p. illus.

Bibliographical footnotes.

Calculating and desingini; cutting tools.

DLC: TJ1230.A47

SO: Manufacturing and M^hchanical Engineering in the Soviet Union, Library
of Congress, 1953.

...TA ...
...LATA ...
...LATA ...

SMOL'NIKOV, Ye.A.

SMOL'NIKOV, Ye.A.

Результаты контроля качества изготовления станков

Quality control of files and needle files. Stan. i instr. 25 no.5:
34-35 My '54. (MIRA 7:6)

(Files and rasps)

SMOLNIKOV, E. A.

Distr: 4E2c

✓ Fused natural minerals as a medium for heating and cooling steel articles during tempering // E. A. Smolnikov. *Novye Metody Termichesk. Obrabotki v Raznykh Sloyakh i Shchelochakh* (Gorki: Kriegoizdatel) Sbornik 1955, 139-60; Referat. Zhur., *Mel.* 1956, Abstr. No. 12537. — In heating and fusing, the natural mineral sylvinite (TU MKhP 1814-48—ground sylvanite), as indicated by the fusing temp., heat capacity, fluidity, adhesion, and corrosive and decarburizing activity on steel, can serve as a cheap full-value substitute for the usually used mixt. of salts for baths at standard temps. (800-900°), such as the eutectic fused salt (78% BaCl₂ + 22% NaCl). The molten (after preheating at 130°) mineral carnallite, KCl·MgCl₂·6H₂O (TU MKhP 762-41), as an enricher, can serve as a substitute for mixts. of easily fused salts, including KNO₃, for baths used in the range 450-800° for tempering fast-cutting steel, since its fusion temp. is ~440°. Baths with carnallite should be worked under draft; the parts must be chemically cleaned afterwards, and passivated, to protect against possible attack of their surfaces and corrosion during subsequent operations.

C. H. Fuchsman

SMOL'NIKOV, Ye.A., kandidat tekhnicheskikh nauk.

Properties of sylvinite as heating medium for hardening steel
parts. Metalloved.i obr.met. no.6:25-32 D '55. (MLRA 9:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy instrumental'nyy institut.
(Steel--Hardening) (Sylvinite)

SMOL'NIKOV, Ye.A., kandidat tekhnicheskikh nauk.

Investigating deformation in high-speed cutting steel during
heat treatments. Sbor.Inst. stali no.33:103-141 '55.(MLRA 9:6)

1.Kafedra metallovedeniya i termicheskoy obrabotki. Predstavleno
akademikom N.T.Gudtsovym.
(Tool steel--Metallography) (Steel--Heat treatment)

129 - 8 - 11/16

AUTHOR: Smol'nikov, Ye. A., Candidate of Technical Sciences.

TITLE: Application in a salt bath of alloys of silvinite with soda.
(Primeneniye v solyanykh vannakh splavov sil'vinita s sodoy).

PERIODICAL: "Metallovedeniye i Obrabotka Metallov" (Metallurgy and Metal Treatment), 1957, No.8, pp.40-42 (U.S.S.R.)

ABSTRACT: In an earlier paper (1) the author described results of investigation of the properties of molten silvinite and also of attempts of applying it in industry for heating during hardening of tools quenched in water or in a salt-petre melt, using borax as a deoxidizing agent. Observations in existing baths of the operation of molten silvinite revealed a number of new features: during heating in such baths the surface quality of the hardened components depends to a large extent on their cooling conditions during the hardening process. Quenching in water or in molten salt-petre produces a clean surface, whilst quenching in oil produces a dark surface and in some cases also a coating of a dense salt film. This is attributed to the existence in silvinite of chloride salts and other admixtures, particularly iron oxides and sulphuric salts. On the basis of the here described experiments it was found that heating in molten silvinite deoxidized with borax is advisable for components

Card 1/2

SMOL'NIKOV, Ye. A., kand. tekhn. nauk

Kinetics of the heating of steel products in fused salts.
Metalloved. i term. obr. met. no. 6 Je '61 (MIRA 14:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy instrumental'nyy institut.
(Steel--Heat treatment)

88283

S/032/61/027/001/015/037
B017/B054

1.9600

AUTHORS: Smol'nikov, Ye. A., Fadyushina, M. N.

TITLE: New Method of Determining the Decarbonized Layer in
X-12 (Kh-12) Steel

PERIODICAL: Zavodskaya laboratoriya, 1961, Vol. 27, No. 1, p. 62

TEXT: Gradual hardening was recommended to develop the decarbonized layer in the perlite region of Kh-12 steel. The steel specimen was heated to 1000-1050°C, then cooled down to 750°C, kept at this temperature for 10 min, and subsequently hardened in oil. After development by etching, the decarbonized layer in steel becomes visible as a dark stripe. Gradual hardening was also recommended to develop the decarbonized layer in the bainite region. The steel specimen was heated to 1000-1025°C, cooled down to 375-390°C, kept at this temperature for 10-20 min, and then hardened in water. The decarbonized layer in steel shows a needle structure after development by etching.

Card 1/2

88283

New Method of Determining the Decarbonized
Layer in X-12 (Kh-12) Steel

S/032/61/027/001/015/037
B017/B054

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy instrumental'nyy
institut (All-Union Scientific Research Institute of
Instruments)

Card 2/2

SMOL'NIKOV, Ye.A.

Selecting optimum holding in annealing cutting tools made of
high-speed steel. Stan.i instr. 32 no.2:20-22 F '61. (MIRA 14:2)
(Tool steel—Hardening)

34817

S/129/62/000/003/008/009

E193/E383

1.1710

AUTHOR

Smolinikov, Ye. A., Candidate of Technical Sciences

TITLE

Study of the decarburizing action of a high-temperature salt bath

PERIODICAL

Metallovedeniye i termicheskaya obrabotka metallov.
no. 3, 1962, 49 - 56 + 1 plate

TEXT:

The object of the present investigation, conducted by S.I. Artem'yeva under the direction of the author, was to develop methods of determining the decarburizing properties of a fused barium-chloride bath and to study the factors affecting the degree of decarburization. Experimental work was carried out in an industrial-type bath, 350 mm deep and of hexagonal cross-section the distance between the parallel faces being 220 mm. In the first method studied, foil specimens (80 x 20 x 0.1 mm) of steels Y13(U13) (1.27% C) and P9 (R9) (0.85% C) were held in a freshly molten bath at 1 280 °C for various periods quenched in water and analyzed for carbon content. The results are reproduced in Fig. 1, where the

Card 1/6

S/129/62/000/005/008/009
E193/E585

Study of

carbon content (%) of steel U15 (curve 1) and R9 (curve 2) specimens is plotted against immersion time (sec) at 1 280 °C. In the next series of experiments, the decarburizing action of the bath was assessed by determining the thickness of the decarburized layer on steel R18 and P18K10 (R18K10) specimens by metallographic examination and scratch tests. The results of preliminary experiments indicate that, all other factors being equal, the thickness of the decarburized layer depends on the geometry of the specimen, decarburization being particularly intensive on sharp edges and corners. Consequently, the degree of carburization was studied as a function of the occluded angle where the depth of decarburized layer (mm) is plotted against the occluded angle (deg) of specimens held in barium chloride at 1 280 °C for 30 min (curve 1) or 15 min (curve 2). It was concluded that the most convenient shape of specimens used with this method of determining the decarburization action of a salt bath was that shown in Fig. 3 and this type of specimen was used in all subsequent experiments. The object of the next

Card 2/6

S/129/62/000/005/008/009
E195/E383

Study of

series of tests was to determine the effect of "ageing" on the properties of barium-chloride baths. To this end, a fresh bath of barium chloride was brought up to 1 280 °C and maintained at that temperature for 40 hours, decarburization tests being carried out on steel specimens at regular intervals. The results are reproduced in Fig. 6, where the carbon content in a foil specimen of steel U13 (% , lefthand scale - curve 1), depth of the decarburized layer on wedge-like specimens of steel R18 (mm, righthand scale - curve 2) and the content of iron oxides in the bath (% , righthand scale - curve 3) are plotted against the service life (hours) of the bath. Since the results of these experiments indicated that the decarburizing ability of the bath increased with time and was associated with a build-up of its oxide content, the effect of adding various deoxidizing agents (MgF_2 , borax, ferrosilicon, CaF_2 , fluorspar and crystalline silicon) was studied as well as the effect of the immersion depth. Several conclusions were reached.

Card 3/6

X

S/129/62/000/003/008/009
E193/E385

Study of

- 1) Both methods tested in the course of the present investigation (chemical analysis of foil specimens of steel U13, metallographic examination of wedge-like test pieces of steel R18) can be used to determine the decarburizing properties of a salt bath. The recommended holding time is 1 min in the former and 15 min in the latter case. When the metallographic method is used, the decarburized layer is more readily revealed if the test piece after being held in the bath at 1 280 °C is isothermally heat-treated in the pearlitic range.
- 2) The greater the depth of immersion, the more intensive is the decarburization in a barium-chloride bath. This effect is associated with the existence of an oxide-concentration gradient.
- 3) The longer a bath remains in operation the higher becomes its oxide content and the more intensive its decarburizing action. Of the various materials tested, magnesium fluoride was found to be the most effective deoxidizing agent. Addition of 5-10% MgF_2 to a barium-chloride bath will ensure absence of decarburization during the first 24 hours.

Card 4/6

Study of

S/129/62/000/003/008/009
E193/E583

of the operation of the bath. Chemically pure MgF_2 is recommended for hardening Mo and Co steels and for hardening steel R18 cutting tools with sharp threads or edges.

4) In less critical applications, 2 - 10% crystalline silicon or 10 - 25% fluorspar can be used as deoxidizing additions.

Addition of the latter material lowers the melting point of the bath and so increases its useful range of application.

5) The service life of a high-temperature bath can be increased and its decarburizing action reduced by using electrodes of high-carbon steels X25 (Kh25) or X28 (Kh28). There are 9 figures and 1 table.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy
instrumental'nyy institut (All-Union Scientific
Research Institute of Instruments)

Card 5/6

X

SMOL'NIKOV, Ye.A., kand.tekhn.nauk; BADAYEVA, A.S., inzh.

Nonmetallic inclusions in high-speed steel. Metalloved. i term. obr.
met. no.6:48-50 Je '62. (MIRA 15:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy instrumental'nyy institut.
(Tool steel—Inclusions)

SMOL'NIKOV, Ye.A.

Exposure of the decarburized layer in steels. Zav.lab. 29 no.2:
200-201 '63. (MIRA 16:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy instrumental'nyy institut.
(Steel—Metallography)

SEOL'NIKOV, Ye.A., kand. tekhn.nauk; ZHDANOVA, F.I., inzh.; GELLER,
Yu.A., doktor tekhn.nauk, prof., red.; LESNICHENKO, I.I.,
red.izd-va; SOKOLOVA, T.F., tekhn.red.

[Salt baths for the heat treatment of articles; a handbook]
Soliane vanny dlia termicheskoi obrabotki izdelii; spravoch-
nik. Moskva, Mashgiz, 1963. 123 p. (MIRA 17:2)

SMOL'NIKOV, Ye.A.; SARANNOVA, L.M.

Salt mixtures used in Czechoslovakia and the German Democratic
Republic for the heat treatment of steel products. Metalloved.
i term. obr. met. no.11:56-57 N '63. (MIRA 16:11)

SMOL'NIKOV, Ye.A.

Effect of heating conditions in hardening on the cutting properties
of tool steels. Stan.i instr. 34 no.7:28-33 J1 '63.

(MIRA 16:9)

(Tool steel--Hardening)

SMOI'NIKOV, Ye.A.

Investigating the decarburizing effect of medium temperature
salt baths. Metalloved. i term. obr. met. no. 2844-48 F'64
(MIRA 17:7)

1. Vsesoyuznyy neftegazovyy nauchno-issledovatel'skiy institut.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 84

...the

Author: Dr. L. G. BROW, F. R. A. (Department of Social and Behavioral Sciences)

TIME: 10:15 P.M. - 11:00 P.M.

PERIODICAL: Metallgesellschaft, 1, Bernburgstr. 1, D-1000 Berlin, Germany, 1990, No. 1, pp. 1-3-4 (DEGR).

ABSTRACT: In preheating steel articles for treatment, the total holding time in a salt bath (t_{total}) is composed of (a) the time required for full heating of a given article (t_1) which depends on the form and volume of the article; (b) the time required for the completion of phase transformations in steel after heating (t_2); the latter is a constant value for steel with a certain type of initial structure.

(1)

1991 1 1

Heating Period of Articles in Salt Baths

77-44

30V/12V-00-2-10/13

Each specimen was held in the bath for a gradually increasing period of time and cooled in a calorimeter. For different-size specimens calorimeters with a capacity of 5, 10, 20, and 30 l were used. The calorimetric vessel was filled with water (10°C), and after the immersion of specimens a metastatic thermometer showed the increase in the water temperature with an accuracy of 0.001°C . Curves were plotted for the changes in the heat content of specimens vs. heating time at various heating rates. Results of experiments with balls are shown in Fig. 3.

Card 3/11

Heating Period of Articles in Salt Baths

SCV-129-00-2-10/13

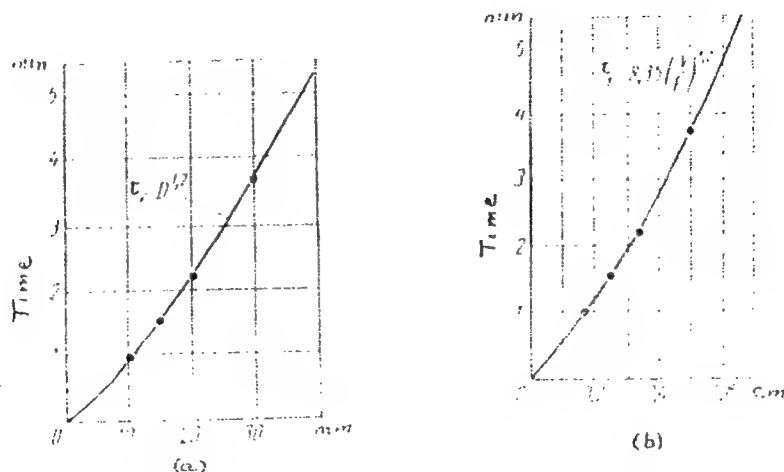


Fig. 3. Time required for heating of SHKhP steel balls: (a) diameter; (b) characteristic size V/F (see Eq. -). Heating in salt bath at 500°C.

Card 9,11

Heating Period of Articles in Salt Baths

7/2/66
227/12 - 10/13

area (cm^2) which is adaptable to individual cases. Figure 4 shows the heating period for cylinders.

$$t_1 = 11.9(V/F)^{1.3} \quad (9)$$

$$t_1 = 7.8(V/F)^{1.3} \quad (10)$$

Equations (9) and (10) allow a rather accurate calculation of the time needed for a full heating of different-size cylinders. By means of Eq. (1) and Eq. (3), (9), and (10), the total heating period t_{tot} can be calculated. In heating time tests

for tools the produced experimental data and data as indicated in Fig. 4 enabled the establishment of a correlation between the time needed for heating of complex-shaped components and that for simple-shaped bodies. The ratio of heating time for a tool

Card 6/11

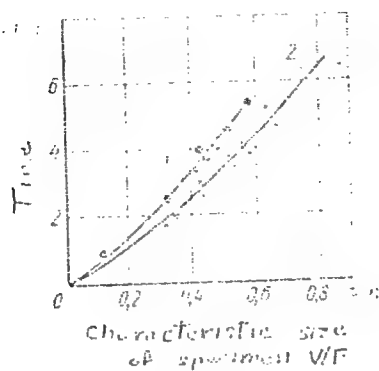


Fig. 4. Time required for heating of specimen in
 1) air, 2) oil. Characteristic size of specimen V/F .
 1) - 0.001, 2) - 0.002 (II. 1971).

...the use of ...

... (24)
... specimen

In heating; such tools as drills, saws, taps, which
are submerged into salt bath only partially, the
risk of delay heating ...
... Thus, leaving time for salt bath ...

... (3)

... 17 ...

Heating Period of Articles in Salt Bath

77-11
SIP 12-11-1-10/13

shapes is calculated, see Table. 2.

Key to Table 2: (A) Tools; (B) designation of steel;
(C) heating temperature ($^{\circ}\text{C}$); (D) a (min/cm); (E)
coefficient = aZ_{sh} (min/cm); (F) twist drills; (G)
hand taps; (H) pipe taps; (I) round threading dies;
(J) hand reamers.

| (A) | (B) | (C) | (D) | Z_{sh} | | (E) |
|-----|------|-----|------|----------|------|-----|
| (F) | 9KhS | 870 | 7.8 | 0.57 | 1.27 | 5.0 |
| (G) | U12A | 800 | 11.9 | 0.66 | 1.27 | 10 |
| (H) | U12A | 800 | 11.9 | 0.80 | 1.27 | 12 |
| (I) | 9KhS | 870 | 7.8 | 0.75 | 1 | 5.8 |
| (J) | 9KhS | 870 | 7.8 | 0.79 | 1.27 | 5.8 |

0411 11

The heating period for round threaded rods made of QK15-steel is found from:

$$t_{\text{tot}} = 5.8 \left[\frac{(D-d)l}{4 \cdot 1 + 2 (D-d)} \right]^{1.3} + 2 \cdot 1. \quad (23)$$

where $D = OD$, $d = ID$, and $l =$ length of part being heated. On the basis of the foregoing, the author concludes as follows: (1) The calorimetric method is recommended for the determination of the power required for heating of complex-shaped articles as well as the general laws governing the heating process. (2) Mathematical models of the heating of complex-shaped articles, as indicated in the text, are based on the correlation between the heating time and the shape factor of the article.

11

Heating Period of Articles in Salt Baths

7727
SOV/129-00-2-10/13

correlation is expressed by $b < 1$. (3) The values found for the coefficients of shape (Z_{sh}) allow the introduction of corrections into the heating time values with a view to individual tool shape. There are 4 figures; 2 tables; and 4 Soviet references.

ASSOCIATION: All-Union Scientific Research Tool Institute
(Vsesoyuznyy nauchno-issledovatel'skiy instrumental'nyy institut)

Card 11,11

"APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001651720008-1



APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001651720008-1"

1. Heating of Hardened Steel During
Hardening in the Air and
Properties of High-Speed Steel

(115)
SOV 119-44-1-9/16

hardening, and then gradually extinguishes. (2) Holding
after completion of heating, which is required for
completion of basic stages of carbides transition into
solid solution. lasts 1.16 min for R18 steel hardened
from 1,230°C; for R9 steel, hardened from 1,230°C. 0.6 min.
(3) Further increase of holding is not advisable as
it is followed by grain growth, unfavorable shape and
size distortions, and distribution of carbides, which
results in lowering of mechanical properties. There
are 14 figures; 1 table; and 4 references, 3 Soviet,
1 U.K. The U.K. references is: Cope, S. G., "Metal
Treatment and Drop Forging," Nr 100-107, 1954.

ASSOCIATION

All-Union Scientific Research Tool Institute (Vsesoyuznyy
nauchno-issledovatel'skiy instrumental'nyy institut)

Card 3/3

S/137/62/000/002/093/14
A060/A101

AUTHORS Smol'nikov, Ye. A., Fadyushina, M. N.

TITLE Determining decarbonization in steel containing 12% Cr, by the use of pearlitic transformation

PERIODICAL Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 71, abstract 21476 (V sb. "Metodika i praktika metallogr. issled. instrum. stal"). Moscow, Mashgiz, 1961, 66-68)

TEXT An investigation was carried out upon two methods of fixing the decarbonized layer and determining its depth in steel grade X12 (Kh12). The first method is based on the fact that the bainite transformation in the zone with lowered C content occurs earlier than in regions with higher C content. The second method is based on the nonsimultaneous transformation of supercooled austenite in the pearlitic region in zones with differing C contents. The recommended hardening schedule for the first method is: heating up for hardening to 1,000 - 1,025°C, cooling in saltpeter at 375 - 390°C for 10 - 20 min and thereupon in water. According to the second method the heating temperature for hardening is 1,000 - 1,025°C, cooling in a salt vat (78% BaCl₂ + 22% NaCl) at

Card 1/2

S/137/62/000/002/093/144
A060/A101

Determining decarbonization in steel ...

725°C for 10 min and then in oil. It is noted that both methods yield results which coincide. The values of the depth of the decarbonized layer obtained by the two methods are cited.

V. Ferenets

[Abstracter's note Complete translation]

Card 2/2

S/121/61/000/002/003/003
A207/A101

AUTHOR:

Smol'nikov, Ye. A.

TITLE:

Optimum soaking time in the heating of high-speed steel instruments for hardening

PERIODICAL:

Stanki i Instrument, Mashgiz, no. 2, 1961, 20 - 22

TEXT:

A study was carried out to establish the effect of the soaking time during the heating of high-speed steel tools for hardening. The optimum value of the soaking time was determined by conducting experiments on samples of a single shape, and on cutting tools. The experiments showed that an increase in the duration of the heating process from 1 to 3-5 min., increased the hardness of the instrument continuously. The latter phenomenon is explained by the fact that the increase in the heating time ensures the passing into the solid solution of a greater amount of secondary carbides, resulting in an increase in the carbon content in the martensite of the hardened steel. The duration of the soaking time τ_{opt} is regarded as a quantity constant (for the given grade of steel) time C, needed for the more complete dissolution of the carbides and sufficient saturation of

S/121/61/000/002/003/005
A207/A101

Optimum soaking time in the heating of high-speed ...

the solid solution with carbon and alloying elements. Thus: $\tau_{opt.} = \tau_h + C$ (1), where C for P18 (R18) steel is 1.16 min. The final formula for computing the soaking time for R18 steel drills is as follows: $\tau_{opt.} = \frac{n}{60} D + C$ (3), where n is the coefficient equal to 3 sec/mm of the diameter. The author asserts that various experiments showed that the heating time of tools made of high-speed steel has a significant effect on the microstructure, hardness, red hardness and cutting properties. Excessively short soaking times, which do not ensure the optimum size of the austenite grain are inexpedient since the resistance of the tool drops rather sharply by about a factor of two, and the hardness and red hardness by far do not reach the optimum values. The correct selection of the soaking time in heating should ensure a degree of saturation of the solid solution with carbon and alloying elements which guarantees a hardness of no less than RC 63 after a three-fold tempering at 560°C, a high red hardness (characterizing by hardness RC 59-60) after tempering at 625°C (4 hours), and not noticeable improvement of the cutting properties. Regulating the soaking time during the hardening process is thought to be a very effective means for increasing the hardness, red hardness and cutting properties of the high-speed steel tool. The optimum heating time of various tools should ensure enough time for their heating to the temperature of the bath, and sufficient time for saturation of the solid solution with carbon and

Card 2/4

S/137/62/000/002/092/14-
A060/A101

Author

Smolinikov, Ye. A.

Title

Determining the depth of the decarbonized layer in high-speed steel from the pearlitic transformation

Reference

Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 71, abstract 21475 (V sb. "Metodika i praktika metallogr. issled. instrum. stal"). Moscow, Mashgiz, 1961, 69)

Text

The phenomenon of lowered stability of the supercooled austenite in high-alloy tool steel in the region of pearlitic transformation at lowered cooling was used to determine the decarbonized layer. After the austenitizing and cooling the specimen down to the appropriate temperature, the austenite of the core is preserved, while troostite is formed in the decarbonized layer. Under subsequent cooling there arises an unetchable martensitic structure. Under etching the troostite decarbonized layer shows itself in the form of a black ring. The boundary of the decarbonized layer may also be detected by using hardness. The difference in the values of the structure hardness between the core and the decarbonized layer. For this purpose one either carries out the determination

Page 12

S/137/62/000/002/092/144
AO60/A101

Determining the depth ...

If the microhardness or else a scratch is made in the radial direction and the thickness of the decarbonized layer is determined from the variation in its thickness. Schedules for determining the decarbonized layer are recommended. For example, for P18 (R18) - heating up to $1,280^{\circ}\text{C}$, cooling down to 725°C , soaking for 30 min, further cooling in oil or water at 20°C .

M. Rabinovich

[Abstracter's note: Complete translation]

Page 2

MALININA, K.A.; SMOL'NIKOV, Ye.A.; SUYETOV, A.P.; BADAYEVA, A.A.; LUNEVA, Z.S.; KUKOLEV, V.V.; SOKOLOVSKAYA, V.V.; LEBEDEVA, Ye.I.; UVAROVA, A.P., tekhn.red.

[Technological operations in the manufacture of metal-cutting tools; instructions] Tekhnologiya izgotovleniya metallorezhushchikh instrumentov; rukovodiashchie materialy. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry. No.7. [Heat treatment] Termicheskaya obrabotka. 1960. 127 p. (MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy instrumental'nyy institut. 2. Termicheskaya laboratoriya Vsesoyuznogo nauchno-issledovatel'skogo instrumental'nogo instituta (for all, except Uvarova). (Metal-cutting tools) (Metals--Heat treatment)

NIKOVA, A. F.
USSR/General Problems. Methodology, History, Scientific Institutions
and Conferences, Instruction, Questions Concerning Biblio-
graphy and Scientific Documentation.

A

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 3461.

Author : A.F. Smol'nikova.

Inst :

Title : Development of Leningrad Pastry Industry.

Orig Pub: in symposium: Pishchevaya prom-st'. L., Sel'khozgiz, 1957,
159-186.

Abstract: No abstract.

Card : 1/1

-12-

YAKHONTOV, Vladimir Vladimirovich; LUZHETSKIY, Aleksandr Nikolayevich
[deceased]; ALIMDZHANOV, Rakhim Alimdzhanovich; NIKOLYUK, V.F.,
doktor biolog.nauk, otv.red.; SMOL'NIKOVA, B.Kh., red.;
BARTSEVA, V.P., tekhn.red.

[Beneficial and injurious insects of Uzbekistan] Poleznye
i vrednye nasekomye Uzbekistana. Tashkent, Izd-vo Akad.nauk
Uzbekskoi SSR, 1960. 200 p. (MIRA 13:12)
(Uzbekistan---Insects, Injurious and beneficial)

L 39314-65 EWT(m)/EWG(v)/EWP(j)/T Pc-4/Pe-5 RM
ACCESSION NR: AP5005754

S/0183/65/000/001/0041/0045

AUTHORS: Smol'nikova, L. G.; Konkin, A. A.

23

21

B

TITLE: Interaction of caprone fiber with bifunctional compounds

SOURCE: Khimicheskiye volokna, no. 1, 1965, 41-45

TOPIC TAGS: caprone, polyamide, intermolecular bond, physicommechanical property, solubility, fiber, formic acid, adipic acid, sebacic acid, catalyst, epoxy, xylene, bifunctional compound / No. 34 caprone, No. 5 caprone, No. 200 caprone

ABSTRACT: This article, the first in a series: "Modification of Caprone Fiber," deals with experiments performed to ascertain the possibility of improving the thermal stability and modulus of elasticity of polyamide fibers by forming intermolecular bonds during the interaction of a polyamide with bifunctional compounds. The experimental work and the results of interacting caprone fiber with dichloranhydrides of dicarboxylic acids, with diepoxy compounds, and with diisocyanates are described. Caprone fibers No. 34, 5, and 200 were used with dichloranhydrides of adipic and sebacic acids in a xylene solution and with pyridine as a catalyst. The increase of weight, the change of physicommechanical properties and the solubility in an 85% formic acid were used as the criteria of bond formation. The reactions were conducted at 120C. It was found that fiber weight may be increased by 4.5-6%,
Card 1/2

L 39314-66

ACCESSION NR: AP5005754

with a proportional decrease in the solubility and a small rise of melting point. The same criteria were used to study the reaction results between the fiber and diisocyanates. A weight increase up to 28% and complete insolubility in formic acid were achieved. In the above work, the influence of temperature, time, and the concentration of the reagents were studied. Experiments with diepoxies were conducted at temperatures of 25-180C with alkaline and acid catalysts. The results were negative. The authors thank S. V. Vinogradova for providing dichloranhydride reagents. Orig. art. has: 4 formulas and 5 graphs. 2

ASSOCIATION: Moskovskiy tekstil'nyy institut (Moscow Textile Institute)

SUBMITTED: 14Feb64

ENCL: 00

SUB CODE: 00

NO REF SOV: 003

OTHER: 008

Card 2/2 50

SMOL'NIKOVA, L.G.; KONKIN, A.A.

Mechanical properties of capron fibers cross-linked with
bifunctional compounds. Khim. volok. no.2:28-30 '65.
(MIRA 18:6)

1. Moskovskiy tekstil'nyy institut.

L 57082-65 ENT(r)/EWG(v)/EWP(j)/T Pc-4/Pe-5 RM
ACCESSION NR: AP5013981

UR/0183/65/000/003/0020/0024
677.494.657

AUTHORS: Smol'nikova, L. G.; Konkin, A. A.

2/
B

TITLE: reaction of polycaprolactam fiber with cyanuric chloride

SOURCE: Khimicheskiye volokna, no. 3, 1965, 20-24

TOPIC TAGS: caprone, chlorine organic compound, fiber, organic synthesis, heat resistance, mechanical property

ABSTRACT: The reaction between polycaprolactam fiber and cyanuric chloride was studied. The polycaprolactam fibers were treated with 5% solution of cyanuric chloride in absolute xylene. At 90C a monochlor-substituted derivative was obtained. On heating this product with 2N NaOH at 50C (and subsequent washing in hot water), this was converted to a dihydroxy derivative of the two initial compounds. A dichlor-substituted derivative was formed by reaction between the two initial components at 120C. With treatment in 2N NaOH at 50C for 2 hours, a hydroxy derivative was obtained. Replacement of chlorine in the triazine ring by hydroxyl group changes the physical and mechanical properties of the new fiber. The monochlor-substituted derivative dissolves in all solvents for

Card 1/2

L 57082-65

ACCESSION NR: AP5013981

polyamides, but the dichlor-substituted derivative does not. The melting point of the monochlor-substituted derivative declines slightly with weight increase of fibers. The melting point of the dichlor form increases very sharply with increase in weight. The hydroxy derivative of this dichlor form has a higher melting point, greater strength, and is more hydrophilic than the parent dichlor-substituted product. Both monochlor and dichlor derivatives have higher heat resistance than the initial caprolactam fibers, and the dichlor form is more resistant than the monochlor form. The loss of strength on heating declines with increase in weight of fibers. Orig. art. has: 4 figures and 3 tables.

ASSOCIATION: MTI

SUBMITTED: 31Mar64

ENCL: 00

SUB CODE: MT, OC

NO REF SOV: 004

OTHER: 003

Card 2/2

L 52103-65 EWT(m)/EWP(j)/T Pc-4 RM

ACCESSION NR: AP5015273

UR/0286/65/000/009/0052/0052

AUTHORS: Konkin, A. A.; Smol'nikova, L. G.; Gabriyelyan, G. A.

16
B

TITLE: A method of processing polyamide or a polyamide fiber, Class 29, No. 170611

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 9, 1965, 52

TOPIC TAGS: polyamide, fiber, hydrogen, amide, diketene

ABSTRACT: This Author Certificate presents a method for processing polyamide or a polyamide fiber by reagents interacting with hydrogen of the amide group of the polyamide. To increase the heat resistance of polyamides and products made of them, diketene or a diketene solution is used as the processing reagent.

ASSOCIATION: none

SUBMITTED: 13Feb64

ENGL: 00

SUB CODE: 00

NO REF SOV: 000

OTHER: 000

Card 1/17MB

L 34825-66 LWT(m)/LWE(j)/T FM

ACC NR: AP6017602

(A)

SOURCE CODE: UR/0183/66/000/001/0026/0029

AUTHOR: Smol'nikova, L. G.; Konkin, A. A.; Makarevich, N. I. 29

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TITLE: Using sulfur chloride solutions for cross-linking capron fibers ¹⁵

SOURCE: Khimicheskiye volokna, no. 1, 1966, 26-29

TOPIC TAGS: chloride, sulfur compound, polymer cross linking, synthetic fiber, ~~nylon~~, polyamide, IR spectrum

ABSTRACT: This article is the fourth in the series "Modification of Capron Fiber". The previous studies were devoted to the effect which dicarboxylic dichlorides, diisocyanates and cyanuric chloride have on the properties of polyamide fiber. In view of the cross linking which takes place with the formation of intermolecular chemical bonds when rubber, gutta-percha and polyvinyl alcohol are treated in sulfur chloride, experiments were conducted to study the use of this reagent for cross linking in capron fiber. No 34.5 polyamide was treated in an 8% solution of pyridine in xylol. After the reaction, the modified fibers were extracted by carbon disulfide and acetone to a constant weight to eliminate the effect of sorbed sulfur on the properties of the

UDC: 677.494.675

Card 1/2

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